

PRELIMINARY AMENDMENT
U.S. Appln. No. 09/822,310

B1
cancel
a providing device for providing a position to which the head is made to retract from a portion on the storage device; and

a defragmenting processing device for performing a defragmenting processing with the storage device at a predetermined time,

wherein the defragmenting processing device continuously arranges specific data in the vicinity of the retracted position when the defragmenting processing is performed.

17. (Once amended) A navigation apparatus performing a navigation operation based on a current position and map data, the navigation apparatus comprising:

B2
a recording medium which stores the map data,

a head for reading and writing information from and into the recording medium;

a providing device for providing a position to which the head is made to retract from a portion on the recording medium; and

a controller which controls the navigation operation based on the map data,

wherein the controller performs a defragment operation for the recording medium at a first predetermined condition and stops the defragment operation at a second predetermined condition, and

wherein the defragment operation continuously arranges specific data in the vicinity of the retracted position.

23. (Once amended) A navigation method performing a navigation operation based on a current position and map data, the navigation method comprising:

B3

PRELIMINARY AMENDMENT
U.S. Appl. No. 09/822,310

B3
Concluded

performing the navigation operation based on the map data stored in a recording medium,
providing a position to which a head, which reads and writes information from and into
the recording medium, is made to retract from a portion on the recording medium,
performing a defragment operation at a first predetermined condition, and
stopping the defragment operation at a second predetermined condition,
wherein the defragment operation continuously arranges specific data in the vicinity of
the retracted position.

Please add the following new claims.

B4

29. (New) A navigation system performing navigation based on a detected current
position and map data, the navigation system comprising;
a storage device, which is nonvolatile, from and into which files of map data are able to
be read and written;
a navigation control device for controlling a navigation operation using the map data; and
a defragmenting processing device for performing a defragmenting processing with the
storage device at a predetermined time,
wherein the defragmenting processing device preserves defragmenting progress data
indicative of a progress condition of the defragmenting processing if the defragmenting
processing under performance is interrupted.

PRELIMINARY AMENDMENT
U.S. Appln. No. 09/822,310

30. (New) The navigation system according to claim 29, wherein the defragmenting processing device continuously arranges a plurality of data fragments being arranged in a divided form and belonging to the same file.

31. (New) The navigation system according to claim 29, wherein the storage device is a hard disk mounted in a hard disk apparatus.

32. (New) The navigation system according to claim 31, wherein the hard disk apparatus comprises:

a head for reading and writing information from and into the hard disk; and

a providing device for providing a position to which the head is made to retract from a portion on the hard disk,

wherein the defragmenting processing device continuously arranges specific data in the vicinity of the retracted position when defragmenting processing is performed.

33. (New) The navigation system according to claim 29, further comprising an operation device with which executing the defragmenting processing in the storage device is able to be ordered, wherein the defragmenting processing device performs the defragmenting processing in response to the instruction of execution from the operation device.

PRELIMINARY AMENDMENT
U.S. Appln. No. 09/822,310

34. (New) The navigation system according to 29, wherein the defragmenting processing device interrupts the defragmenting processing if a given condition is fulfilled during executing the defragmenting processing.

35. (New) The navigation system according to claim 29, wherein the defragmenting processing device is constructed so as to execute the defragmenting processing in cases a vehicle on which the navigation system is mounted is stopped.

36. (New) A navigation apparatus performing a navigation operation based on a current position and map data, the navigation apparatus comprising:

a recording medium which stores the map data, and

a controller which controls the navigation operation based on the map data,

wherein the controller performs a defragment operation for the recording medium at a first predetermined condition and stops the defragment operation at a second predetermined condition, and

wherein defragmenting progress data indicative of a progress condition of the defragment operation is preserved if the defragmenting operation under performance is interrupted.

37. (New) A navigation apparatus according to claim 36, wherein audio data is to be stored in the recording medium.

PRELIMINARY AMENDMENT
U.S. Appl. No. 09/822,310

38. (New) A navigation apparatus according to claim 36, wherein the first predetermined condition is a condition of no navigation operation.

39. (New) A navigation apparatus according to claim 36, wherein the first predetermined condition is a condition that a user instructs the defragment operation.

40. (New) A navigation apparatus according to claim 36, wherein the second predetermined condition is a condition that the defragment operation is completed.

BH
41. (New) A navigation apparatus according to claim 36, wherein the second predetermined condition is a condition of an engine stop of a vehicle in which the navigation apparatus is installed.

42. (New) A navigation method performing a navigation operation based on a current position and map data, the navigation method comprising:

performing the navigation operation based on the map data stored in a recording medium,
performing a defragment operation at a first predetermined condition,
stopping the defragment operation at a second predetermined condition, and
preserving defragmenting progress data indicative of a progress condition of the defragmenting operation if the defragment operation under performance is interrupted.